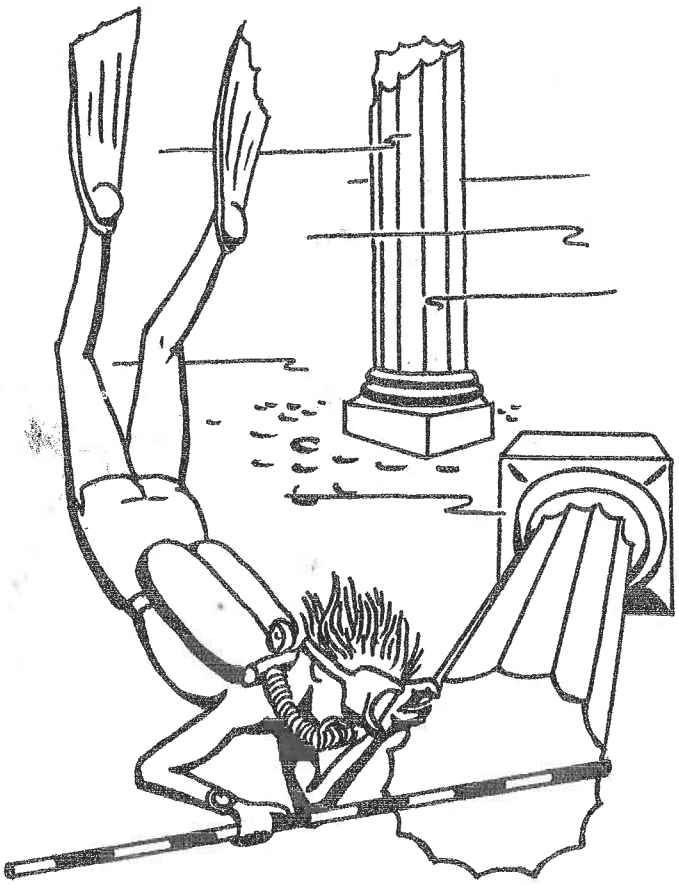
CAMBRIDGE EXPEDITION

TO

SABRATHA

1966

REPORT



Patrons:

Lady Brogan, M.A., F.S.A.

Dr. K. Kenyon, Principal of St. Hughes College, Oxford.
Director of the British School at Jerusalem.

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Sponsored by the Royal Geographical Society.

Approved by the Cambridge Expeditions' Committee.

"Nothing beside remains. Round the decay
of that Colossal Wreck, boundless and bare
The lone and level sands stretch far away."

(Shelley)

ERRATA:

P.2, Para.3, line 1: for 'Sabrathe' read 'Sabratha'.
P.3, Para.2, line 2: for 'quanitty' read 'quantity'.
P.6, Para.4, line 4: for 'Phoenicians' read 'Romans'.
P.9, Para.4, line 7: for 'suitable' read 'suitably'.
P.12, line 1, for 'Rass' read 'Ras'.
P.17, line 6, for 'Hergia' read 'Hergla'.
P.29, line 16, for 'Dr J.M.Morrison' read 'Dr Ian Morrison'.
P.31, line 36, for 'Rabone Chestervian Ltd.'
read 'Rabone Chesterman Ltd.'
Throughout: for 'serial' read 'aerial'.
Throughout: for 'Justinianapolis' read 'Justinianopolis'.

MEMBERS:

R.A. Yorke, (Marlborough and Clare). Leader of the expedition; surveyor, photographer, diver. Graduated 1966 and now working for the Birfield Group. Age 22.

M.F. Dallas, (Sherborne and Queens'). Surveyor, diver. Now in his fourth year reading Chemical Engineering. Age 22.

J.W.C. Ward, (Haileybury and Pembroke). Mechanic and diver. Now in his fourth year reading Chemical Engineering. Age 21.

G.J. Parker, (Christ's Hospital and Peterhouse). Archaeologist, diver. Third year reading Archaeology and Anthropology. Age 21.

D.P. Davidson, (Oundle and Sidney Sussex). Cook and diver. Third year reading Mechanical Sciences. Age 21.

C.R.M. Kemball, (Ampleforth and Pembroke). M.O. and diver. Now in his second year reading law. Age 19.

D. Kerr, (Trinity Hall). Surveyor and diver. Graduated in 1965 and now working for W.S. Atkins and Partners. Age 23. Joined the expedition for three weeks.

D.J. Blackman. Lecturer in Classics at Bristol University and Harbours Officer (Mediterranean) for the Committee of Nautical Archaeology, London. Assisted the expedition for two weeks.

CAMBRIDGE EXPEDITION TO SABRATHA

AIM:

In early January of 1966 the expedition was formed by members of the Cambridge University Underwater Exploration Group. The aim was to make an extensive underwater archaeological survey of the harbour of the Roman town of Sabratha in Libya. It was also hoped, if time was available, to extend the survey to a number of other Classical Ports between Tripoli and Tunis.

INTRODUCTION:

In the ninth and eighth centuries B.C. the Phoenicians established a number of colonies all along the North African coast. Later, after the Roman conquest in 146 B.C., many of these became important as ports trading with Rome.

The three Roman cities, Sabrathe, Oea (Tripoli) and Leptis Magna gave the province of Tripolitania its name, "the land of the three cities". Sabratha, the most westerly of the three, smaller than Leptis Magna but more compact in its layout and building, was undoubtedly a large trading centre for the agricultural products of western Tripolitania and an entrepot for trade with Central Africa. In past years, when Sabratha was extensively excavated, no serious work was done to discover the extent of the harbour.

The writings of Tissot, Reinach (Geographie de la Province Romaine d'Afrique) and Daux, both of home travelled along the Tunisian coast at the end of the nineteenth century, provided much of the information for the ancient ports in Tunisia, from which large quantities of local produce are known to have been exported. This information, although rather sketchy in nature, as it only applied to any remains that could be seen from land, gave the necessary leads from which to work.

The Cambridge Expeditions Committee granted its approval to the project and successful application was made to the Royal Geographical Society for sponsorship. Generous contributions were also received from many trusts and industrial organisations.

The expedition purchased a long wheelbase hard-top Land Rover. An expedition of this kind requires a considerable quanitty of heavy equipment; it was found necessary to take six aqualung diving sets, an air compressor and a Zodiac inflatable dinghy, with outboard motor, besides the usual equipment and food. To help carry this, a large trailer was borrowed from the diving club of Imperial College, London.

On June 16th, the expedition left Dover on one of the non-strikebound ferries and travelled through France to Marseilles, where it embarked for Tunis. In Tunis the party was the guest of E.H. Noble Esq., the Commercial Secretary to the British Embassy. Two days were spent in Tunis searching through the archives of the Service Topographique for serial photographs relevant to the Tunisian sites.

From Tunis the expedition travelled south, crossed the Libyan frontier negotiating no less than five customs posts on the way and reached Sabratha a week after leaving England. Work at Sabratha occupied three and a half weeks. For two of these weeks the Libyan Antiquities Department kindly provided accommodation for the expedition in the excavation rest house. Monty Wood of the Esso Oil Company (Libya) must be thanked for the continual assistance, of all kinds, that he gave the expedition during its stay in Libya.

After Sabratha, a visit to Leptis Magna and a coastal site at Al Jezirah occupied a further three days.

The 17th July saw the start of the second half of the project. The expedition left for Tunisia and made its first stop on the island of Djerba. This was the beginning of four weeks of travel along the eastern coast of Tunisia during which time a further fourteen sites were investigated.

On August 16th the expedition left Tunis by boat for Marseilles and the main party arrived back in England on August 19th. Two members travelled on to Greece where they visited the American School's excavations at the harbour of Kenchreai and were later fortunate enough to become involved in the search for Atlantis with the Mavor-Galanopoulos expedition to Santorini.

Topography

The western coast of Tripolitania is one of the few regions in Libya where agriculture is practised. Arid and sandy with scattered plantations of date palms and olive groves, the coast is low lying and the water off-shore is generally shallow. The south and eastern coasts of Tunisia are similarly sandy and the sea is again very shallow. It is not until Cap Bon in the north that the terrain becomes mountainous and rugged with water depths of seventy feet or more close inshore.

Harbours Report

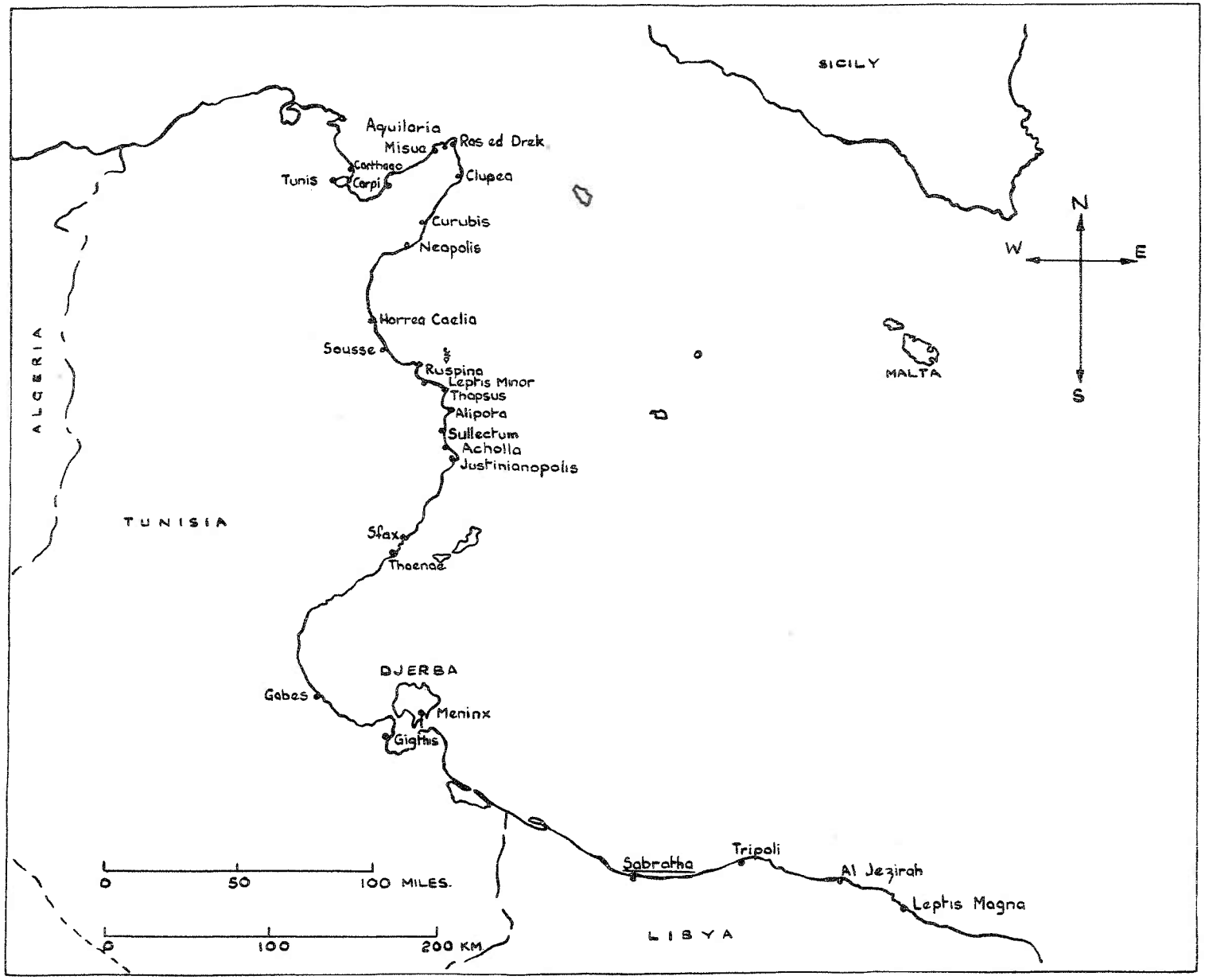
This is arranged with a section for each site that was visited. Sites were located from large scale maps, serial photographs and directions from the local inhabitants. Enquiries about "Roman remains" would often produce helpful directions, though seldom all consistent and often a guide would be forthcoming. These guides, however, were usually more interested in the Land Rover and its contents than the whereabouts of any remains.

The types of harbour works that were found and surveyed by the expedition can be divided into two main categories: large breakwaters and piers built out into the sea from the shore; and quays, building foundations and tanks found in the water or on the beaches. The former may again be divided into two different types: the breakwater or mole that was built in relatively deep water to provide shelter for mooring vessels; and the pier or jetty that was built out on a shallow shore until there was a sufficient depth of water at its end for mooring or loading boats.

Another form of harbour that was often used by the Phoenicians was the cothon. This was usually a harbour basin cut out inland and connected to the sea by a channel. Probably the best known examples of this type of harbour are the two cothons at Carthage.

One of the common building materials used by the Phoenicians was concrete; very similar to the material of today, this consisted of an aggregate of large stones, on average about 3 inches in diameter, set in a matrix of mortar.

Due to submersion, many of these harbour works have remained undiscovered over the centuries and are not visible without a thorough underwater investigation. Submersion may have been caused by wave-action and erosion, local tectonic change, subsidence or a rise in sea level. Each site must be considered on the evidence available but of course any sea level change would be uniform over the Mediterranean.


SICILY
Aquilaria
Misua
Ras ed Drek
Carthago
Tunis
Carpi
Clupea
Curubis
Neapolis
Horrea Caelia
Sousse
Ruspina
Lepris Minor
Thapsus
Alipota
Sullectum
Acholla
Justinianopolis
ALGERIA
TUNISIA
Sfax
Thaenae
DJERBA
Gabes
Meninx
Gigthis
Sabratha
Tripoli
Al Jezirah
Lepris Magna
LIBYA
MALTA
N
W
E
S
0
50
100 MILES.
0
100
200 KM

SUMMARY OF FINDS

SABRATHA:	Concrete capped natural breakwater, 300 metre breakwater of boulders, quay system of blocks.
Al Jezirah:	Small quay of blocks.
MENINX:	Uncertain.
GIGTHIS:	90 metre jetty with a semicircular end. (Previously reported.)
THAENAE:	A few foundations.
ACHULLA:	460 metre jetty.
JUSTINIANAPOLIS:	Nothing.
SULLECTUM:	260 metre mole, foundations, tank.
ALIPOTA:	Cothon. (Previously reported.)
THAPSUS:	1000 metre curved mole, calcified wood in structure of mole.
LEPTIS MINOR:	560 metre jetty,* foundations.
RUSPINA:	Two small cothons and a tank*.
HORREA CAELIA:	Two long lines of large concrete blocks.
NEAPOLIS:	Many blocks.
MISUA:	"Causeway" of blocks to the island.
CARPIS:	Two jetties of rough stones.
CARTHAGE:	Many blocks.
Ras ed Drek:	Three lead anchor stocks.

* Investigated for the expedition by Dr. N.C. Flemming.

SABRATHA Map 1 and 2

The excavated ruins of the Roman town lie on the coast two kilometres from the modern village of Sabratha.

The remains of the Roman town stretch along the sea shore and show, by their layout, the most likely places where harbour remains may be found. During the time that the expedition spent at Sabratha, a sea area one kilometre by half a kilometre was systematically searched but attention was initially focussed on the reef which runs parallel to the shore.

This was found to be capped with concrete for 180 metres of its length. Although the concrete had been considerably eroded by wave action, it was rectangular in its plan at the western end of the reef and 20 metres away, in the water, a large number of squared blocks lay adjacent to the reef. This suggests there may have been a building on this end of the reef in ancient times.

Underwater search of the bay disclosed that a line of large boulders ran for 320 metres from the small island at the extreme western end of the bay towards the reef. The top of this breakwater was one foot below the surface (and was plainly marked in rough weather by the surf breaking on it). The breakwater terminated 75 metres from the reef leaving a deep channel between the two. There were no signs of building or rock cutting on the small island.

The abundance of pottery fragments found by divers during the survey was of particular interest. These piles of sherds were usually fairly localised and among them perfect specimens of a small pottery jug and a shallow dish were found. These and other objects found were handed over to the superintendent of the ruins.

To the north of the Seaward Baths a complex system of rectangular blocks was discovered running 75 metres out towards the reef. Unfortunately, it was partly obscured in places by sand and